

Proposed.—That tight cesspools be formed at certain intervals under the public roadways, sufficiently large to receive the soil from the water-closets of as many houses as it may be found expedient to drain to one point; the author recommends the centre of the meetings of streets in particular, and that one cesspool would thus be sufficient for three or four streets. The soil pipe from the closet in each house is to be continued to, and connected with, a larger or main pipe, of glazed ware or glass, laid on each side of the street, and this is to empty itself into the common cesspool: the joints of all the pipes are, of course, to be sound. The cesspool is to be furnished with an air-tight valve, or man-hole, near the surface, for the emptying process, which as often as necessary (in the night or early morn) is to be accomplished by means of the air-tight night-soil cart recently invented and already in use for similar purposes, the suction hose of which being inserted through the aperture referred to, the contents of the cesspool may be abstracted without the slightest inconvenience or annoyance to the inhabitants.

One adjunct more than is described will, however, be indispensable—namely, an exit-pipe to the cesspool, in order that the foul air may not be forced into the houses by the displacement which must take place every time an addition is made to its more solid contents; this may be formed of earthen tubes soundly jointed, and carried up to a height sufficient to prevent the noxious vapours from affecting the inhabitants, or the same might be turned to account in a manner which I shall leave for description to competent chemists.

The advantages of this plan are—1st, Economy in the original cost, which would evidently form a considerable item. 2nd, The rapidity with which some of the thousands of undrained houses might be simultaneously relieved, as the completion of every cesspool would afford instant benefit; whereas, in some districts, miles of sewers must be perfected before they reach the neighbourhoods most in need of them. 3rd, Security from the evils that must arise from the constant irrigation of the soil in its passage through the sewers to the distant point of its destination. It is well known that the shorter the distance, and the more quiet the action in the movement of soil, the less annoyance results from it. 4th, The entire saving of the expense of flushing; comparative security from stoppages, on account of the greater fall which may be given to the pipes; the small extent of inconvenience whenever such should occur, and the ease with which the same could be remedied. 5th, Greater freedom from the liability to have noxious vapours arise in the house, or to have the ordinary water drainage impaired, as it would be entirely distinct from that of the water-closet. 6th, The saving of our river from pollution, and the consequences thereof, as respects the domestic use of the waters, as well as the atmospheric influences exerted by it in manner already dwelt upon by your correspondents. And, lastly, the pecuniary value of the contents of the cesspools for agricultural purposes, which, upon the most moderate estimation, would produce sufficient to repay the original cost in a short time, and would be afterwards applicable to some local purpose—such, for instance, as improvements in the habitations of the poor, or in reduction of some one of the present rates.

In this manner the existing mode of disposing of the dust by the parish authorities might be at once applied to the soil, with powers for constructing the reservoirs, letting the cleansing of them by contract, &c.; a considerable portion of house drainage would thus be disposed of, leaving to the public commissioners that only which, depending, as it does, upon careful attention to levels and extensive general arrangements, would doubtless be more effectually accomplished by a central body; we might then expect to have our suburbs well cleansed and properly drained, neither of which will, in my humble judgment, be effected, if the plan of forcing the solid refuse through the public common sewers be persisted in.

The objections which urge themselves most forcibly against the present system of sewage, are, 1st The difficulty of driving, even by frequent flushings, so large a quantity of soil through continued lengths of sewers, with their numerous branches and windings. If, as

in some existing instances, it is difficult to keep main sewers clear now that a very small portion of the houses in the districts through which they run make use of them, what may be expected when the whole population are compelled to drain through the same channels, besides the immense additions to come from the branches to be constructed in the yet undrained districts? I feel confident the plan would, in this respect, fail of accomplishing the desired objects without a very large annual expenditure. 2nd, That, which of all evils may be the greatest—viz., the corruption of the waters of our river so unnecessarily: it is true this might be mitigated by processes which have been described, for separating and securing the valuable part of the sewage near to the outfalls, but why allow that which is of so much worth to be needlessly amalgamated with the valueless, at an increased expense from first to last, in order that the further trouble and cost of separation may be incurred; at the same time that its liability to poison the atmosphere will exist throughout its course, increased by the constant washings it must receive in its progress.

The first cost of sewers to be thus used must of necessity be greater, to which should be added the expense of erecting air shafts for their ventilation, or it will be impossible for the small house traps to prevent effectually the gases from being forced up, pressed as they are by the ordinary operations of drainage, but more particularly during heavy rains. The power thus exerted in large sewers, especially those with tide traps, is not to be resisted by ordinary means, hence the consequences daily experienced: these would but be multiplied unless great improvements accompany an extension of the system.

A comparison of the advantages of the two plans under notice cannot, I think, fail to realise a preference for what I shall designate the separate system, whether on the score of economy or public utility: it is simple in application, and capable, as before observed, of affording simultaneous relief to our suburban districts without the delay which the combined system involves. It becomes, therefore, a question of serious import whether great benefit would not be secured to the community, by conferring forthwith upon the parish authorities the powers herein contemplated, in order that house cleansing may proceed, while the commissioners mature and carry into effect their admirable arrangements for rendering our village dry and healthy.

Camberwell.

THOS. W. PLUM.

THE ART-UNION AND THE BOARD OF TRADE.

STR.—The question of Government interference in the Art-Union has very naturally called forth the complaints of artists whose daily bread, in a considerable degree, depends on that popular institution; but it is as much a subject for the serious consideration of the subscribers whose guineas are to be taxed and who would no longer be allowed to spend their money as they thought proper; nor is it less important to the public at large, who must perceive that an meddling spirit in small affairs, may be looked upon as a prelude to a more general invasion of the rights of property. These are not times for Government to attempt paltry dealings of the sort, in opposition to the best principles of administration and justice: surely whilst defending themselves against the charge of undue interference in the internal affairs of other countries, they would do well to avoid meddling with the management of popular institutions in our own. Ten per cent. on the subscriptions, for special purposes, cannot make up for the trouble that awaits them if they persist in this unjust and vexatious course of paltry meddling. The meeting of artists is but a small beginning; we who have not yet met may in due time do so, and place the question on the highest constitutional grounds.—I am, &c.

AN ENGLISHMAN.

COMPETITION.—Premiums of twenty-five and fifteen guineas are offered, according to advertisement, for plans for a Normal college for Wales.

Correspondence.

EFFECT OF LEAD ON PURE WATER.

SIR.—Perhaps amongst your numerous scientific correspondents you may be able, through the medium of your valuable paper, to obtain for me some information respecting the following difficulty?

In an open situation in the country, the rain-water is collected from the slated roof of a large building, by means of zinc eaves-gutters and iron stand-pipes, directly into a tank built with brickwork in cement, and rendered in cement. The water is thence raised by a pump and lead pipes to a lead cistern, placed in a sheltered situation within a dwelling-house, about 150 yards from the first-mentioned building; it is then drawn from the cistern again by lead pipes to supply several bedrooms, but, during its passage from the tank, it becomes so exceedingly hard that soap curdles in it: it is quite unfit for use, and has a very bad flavour. The water in the tank, although not so pure as might be expected from rain-water, does not undergo the same change as that in the cistern. The whole work has been only recently executed. The cause of the change may no doubt be an ordinary one, but as I am at present unable to give a satisfactory reason for it, there may be others as desirous of obtaining knowledge as myself, which I trust you will consider sufficient excuse for asking a place in your excellent paper.—I am, Sir, &c., YORK.

May 22, 1848.

* If our correspondent's case be stated with sufficient accuracy and minuteness, as it appears to be, we have little hesitation in saying that it is to the very purity of the rain-water at first, that the evil is a serious one, which ought to be immediately remedied must be attributed. We have already pointed out the great risk of poisonous corrosion by keeping very pure water in leaden cisterns, and precautions which may be used in such cases—see BUILDER, last volume, pp. 412, 438, and 456—to which we must refer our correspondent, more particularly to pp. 438 and 456. Rain-water is in fact distilled water, and it has been there shown that such water is the most likely of all to act on lead.

MISCELLANEA.

PROJECTED WORKS.—Advertisements have been issued for tenders for the various works required in the erection of 100 villa residences (time not specified); by 5th July, for meeting in wainscot Maidstone Church; by 6th June, for erecting buildings at Haggerstone; by 23rd, for the erection of a chapel, &c. at Hemmingford Grey St. Neots; by 6th, for the erection of the schools and master's house at Peartree-green, Southampton; by 5th, for the works to be executed in the erection of schools and master's house at New Wortley, Leeds; by 22nd, for additions and alterations at Sudbury Union Workhouse; by 15th, for the erection of two artillery stores at Portsea; also, for a palisade fence and warren's house at Southsea-common; by 5th, for repairing and keeping in repair the Stourbridge district roads; by 5th, for the erection of an oakum store and other buildings; by 7th, for painting and repairing gas lamps, &c. at Islington; by a time not specified, for digging or boring into the chalk for water; and by 7th, for a supply of British iron and files for East India Company.

THE WINDSOR TOWN AND CASTLE IMPROVEMENTS.—From some discussion in the Commons between Mr. Hume and Lord Morpeth, it appears that in order to enable the improvements arranged between the Windsor Town Council and the Woods and Forests, to be proceeded with, and some of the men employed to be thus provided for, without any assistance from the public funds, but on the contrary, with the view also of increasing the public accommodation by railway, her Majesty has, for these purposes, thrown open, to certain railway companies, ground in her possession, upon condition that they contribute the sum of 60,000*l.*, to enable the public and other improvements at Windsor. A Bill has been accordingly brought before the Commons to effect these objects.